



In re Application of:

Yijia P. Bao, et al.

Serial No.: 10/735,357

Filed: December 12, 2003

For: DIRECT SNP DETECTION WITH
UNAMPLIFIED DNA

Examiner: TBA

Art Unit: 1645

Confirmation No. 2590

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In regard to the above identified application.

1. We are transmitting herewith the attached:

- a) Seventh Supplemental Information Disclosure Statement with copies of 29 references
- b) IDS PTO Form-1449
- c) Return Receipt Postcard

2. With respect to fees:

- a) No check is attached.
- b) **General Authorization:** Please charge any underpayment or credit any overpayment
our Deposit Account, No. 13-2490.

3. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 4 day of August, 2004.

Date:

Respectfully submitted,

Emily Miao
Registration No. 35,285



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No.02-1227-A)

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| In re Application of: |) | |
| |) | |
| Bao, et al. |) | Examiner: TBA |
| |) | |
| Serial No. 10/735,357 |) | |
| |) | Group Art Unit: 1645 |
| Filed: December 12, 2003 |) | |
| |) | |
| For: DIRECT SNP DETECTION WITH |) | Confirmation No.: 2590 |
| UNAMPLIFIED DNA |) | |

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

SEVENTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In order to comply with discretionary regulations 37 CFR §§1.97 and 1.98, attached hereto is Form PTO-1449, copies¹ of the documents listed thereon. These documents contain information which the Examiner may consider to be important in deciding whether to allow the present application to issue as a patent. Pursuant to 37 C.F.R. § 1.97(c) and 1.17(p), a fee is attached.

1. Merrill, et al., U.S. Patent No. 5,830,986, issued November 3, 1998.

¹To the extent that a document is listed and no copy of same is attached, then such document is not at the present time available to the undersigned or is available in the file of a parent application. If a listed document is not in the English language and an English translation is readily available, such translation is also attached; if translation is not attached it is not readily available to the undersigned. If a foreign language patent document is cited, and an English language equivalent is known to the undersigned, then such equivalent patent is also cited on the attached form along with the corresponding foreign language patent and a connecting arrow indicated therebetween; if no such English language equivalent is cited, then none is known to undersigned.

2. Lough, et al., U.S. Patent No. 5,900,481, issued May 4, 1999.
3. Goldberg, et al., U.S. Patent No. 6,203,989, issued March 20, 2001
4. Bawendi, et al., U.S. Patent No. 6,251,303, issued June 26, 2001.
5. Abbott, et al., U.S. Patent No. 6,277,489, issued August 21, 2001.
6. Bawendi, et al., U.S. Patent No. 6,306,610, issued October 23, 2001
7. Mirkin, et al, U.S. Patent No. 6,361,944, issued March 26, 2002.
8. Wagner, et al., U.S. Patent No. 6,365,418, issued April 02, 2002
9. Mirkin, et al., U.S. Patent No. 6,417,340, issued July 09, 2002
10. WO 93/25709 published 23 December 1993.
11. WO 98/04740 published 5 January 1998
12. WO 98/17317 published 30 April 1998
13. WO 99/60169 published 25 November 1999
14. WO 00/33079 published 8 June 2002
15. WO 01/00876 published 4 January 2001
16. WO 01/51665 published 19 July 2001
17. WO 01/73123 published 4 October 2001
18. WO 01/86301 published 15 November 2001
19. WO 02/04681 published 17 January 2002
20. WO 02/18643 published 7 March 2002
21. WO 02/36169 published 10 May 2002
22. WO 02/46483 published 13 June 2002

23. WO 02/46472 published 13 June 2002
24. Letsinger, R., et al., "Chemistry of Oligonucleotide-Gold Nanoparticle Conjugates," *Phosphorus, Sulfur and Silicon*, Volume 144, p. 359-362 (1999)
25. Letsinger, R., et al., "Use of a Steroid Cyclic Disulfide Anchor in Constructing Gold Nanoparticle—Oligonucleotide Conjugates," *Bioconjugate Chem*, p. 289-291 (2000)
26. Li Z., et al., "Multiple thiol-anchor capped DNA-gold nanoparticle conjugates," *Nucleic Acids Research*, Volume 30, p. 1558-1562 (2002)
27. Nuzzo R., et al., "Spontaneously Organized Molecular Assemblies. 3. Preparation and Properties of Solution Adsorbed Monolayers of Organic Disulfides on Gold Surfaces," *J. Am Chem. Soc.*, Volume 109, p. 2358-2368 (1987)
28. Otsuka, H, et al., "Quantitative and Reversible Lectin-Induced Association of Gold Nanoparticles Modified with α -Lactosyl- ω -mercapto-poly(ethyleneglycol)," *J. Am Chem. Soc.*, Volume 123, p. 8226-8230 (2001).
29. Wuelfing, P, et al, "Nanometer Gold Clusters Protected by Surface-Bound Monolayers of Thiolated Poly(ethylene glycol) Polymer Electrolyte," *J. Am. Chem. Soc.*, Volume 120, p. 12696-12697 (1998)

In accordance with MPEP Sections 609 and 707.05(b), it is requested that each document cited (including any cited in applicant's specification which is not repeated on the attached Form PTO-1449) be given thorough consideration and that it be cited of record in the prosecution history of the present application by initialing on Form PTO-1449. Such initialing is requested even if the Examiner does not consider a cited document to be sufficiently pertinent to use in a rejection, or otherwise does not consider it to be prior art for any reason, or even if the Examiner does not believe that the guidelines for citation have been fully complied with. This is requested so that each

document becomes listed on the face of the patent issuing on the present application.

The present Disclosure Statement is being submitted in compliance with 37 CFR 1.56 insofar as an Examiner might consider any of the cited documents important in deciding whether to allow the application to issue as a patent, but the citation of each document is not to be construed as an admission that such document is necessarily relevant or prior art. No representation is intended that the cited documents represent the results of a complete search, and it is anticipated that the Examiner, in the normal course of examination, will make an independent search and will determine the best prior art consistent with 37 CFR 1.104(a) and 1.106(b) and, in the course of each search, will review for relevance every document cited on the attached form even if not initialed.

Early and favorable consideration is earnestly solicited.

Dated: _____

Aug. 4, 2004

Respectfully submitted,



Emily Miao

Registration No. 35,285

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Chicago, Illinois 60606
Telephone : (312) 913-0001
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FORM PTO-1449
(Rev. 2-32)

U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.

02-1227-A

Serial No.

10/735,357



**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use several sheets if necessary)

Applicant:

Bao, et al.

Filing Date:

December 12, 2003

Group:

1645

U.S. PATENT DOCUMENTS

| Examiner Initial | | Document Number | Date | Name | Class | Subclass | Filing Date if Appropriate |
|------------------|----|-----------------|----------|------------------|-------|----------|----------------------------|
| | 1. | 5,830,986 | 11/03/98 | Merrill, et al. | 528 | 332 | 10/28/96 |
| | 2. | 5,900,481 | 05/04/99 | Lough, et al. | 536 | 55.3 | 11/06/96 |
| | 3. | 6,203,989 | 03/20/01 | Goldberg, et al. | 435 | 6 | 03/25/99 |
| | 4. | 6,251,303 | 06/26/01 | Bawendi, et al. | 252 | 301.4R | 09/18/98 |
| | 5. | 6,277,489 | 08/21/01 | Abbott, et al. | 428 | 403 | 12/04/98 |
| | 6. | 6,306,610 | 10/23/01 | Bawendi, et al. | 435 | 7.1 | 09/17/99 |
| | 7. | 6,361,944 | 03/26/02 | Mirkin, et al. | 435 | 6 | 06/25/99 |
| | 8. | 6,365,418 | 04/02/02 | Wagner, et al. | 436 | 518 | 05/18/00 |
| | 9. | 6,417,340 | 07/09/02 | Mirkin, et al. | 536 | 23.1 | 10/20/00 |

FOREIGN PATENT DOCUMENTS

| | | Document Number | Date | Country | Class | Subclass | Translation Yes | Translation No |
|--|-----|-----------------|------------------|---------|-------|----------|-----------------|----------------|
| | 10. | WO 93/25709 | 23 December 1993 | PCT | | | | |
| | 11. | WO 98/04740 | 5 February 1998 | PCT | | | | |
| | 12. | WO 98/17317 | 30 April 1998 | PCT | | | | |
| | 13. | WO 99/60169 | 25 November 1999 | PCT | | | | |
| | 14. | WO 00/33079 | 8 June 2002 | PCT | | | | |
| | 15. | WO 01/00876 | 4 January 2001 | PCT | | | | |

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

FORM PTO-1449
(Rev. 2-32)

U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.

02-1227-A

Serial No.

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|-----|-----------------|------------------|---------|-------|----------|-----------------------|
| 16. | WO 01/51665 | 19 July 2001 | PCT | | | |
| 17. | WO 01/73123 | 4 October 2001 | PCT | | | |
| 18. | WO 01/86301 | 15 November 2001 | PCT | | | |
| 19. | WO 02/04681 | 17 January 2002 | PCT | | | |
| 20. | WO 02/18643 | 7 March 2002 | PCT | | | |
| 21. | WO 02/36169 | 10 May 2002 | PCT | | | |
| 22. | WO 02/46483 | 13 June 2002 | PCT | | | |
| 23. | WO 02/46472 | 13 June 2002 | PCT | | | |

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

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| 24. | Letsinger, R., et al., "Chemistry of Oligonucleotide-Gold Nanoparticle Conjugates," <i>Phosphorus, Sulfur and Silicon</i> , Volume 144, p. 359-362 (1999) |
| 25. | Letsinger, R., et al., "Use of a Steroid Cyclic Disulfide Anchor in Constructing Gold Nanoparticle—Oligonucleotide Conjugates," <i>Bioconjugate Chem</i> , p. 289-291 (2000) |

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| FORM PTO-1449 (Rev. 2-32) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) | U.S. Department of Commerce Patent and Trademark Office | | Atty. Docket No. 02-1227-A | Serial No. 10/735,357 |
| | Applicant: Bao, et al. | | | |
| | Filing Date: December 12, 2003 | Group: 1645 | | |

| Examiner Initial | Document Number | Date | Name | Class | Subclass | Filing Date if Appropriate |
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| 26. | Li Z., et al., "Multiple thiol-anchor capped DNA-gold nanoparticle conjugates," <i>Nucleic Acids Research</i> , Volume 30, p. 1558-1562 (2002) |
| 27. | Nuzzo R., et al., "Spontaneously Organized Molecular Assemblies. 3. Preparation and Properties of Solution Adsorbed Monolayers of Organic Disulfides on Gold Surfaces," <i>J. Am Chem. Soc.</i> , Volume 109, p. 2358-2368 (1987) |
| 28. | Otsuka, H., et al., "Quantitative and Reversible Lectin-Induced Association of Gold Nanoparticles Modified with β -Lactosyl- β -mercapto-poly(ethyleneglycol)," <i>J. Am Chem. Soc.</i> , Volume 123, p. 8226-8230 (2001) |
| 29. | Wuelfing, P., et al., "Nanometer Gold Clusters Protected by Surface-Bound Monolayers of Thiolated Poly(ethylene glycol) Polymer Electrolyte," <i>J. Am Chem. Soc.</i> , Volume 120, p. 12696-12697 (1998) |
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